

Docket No. F-7265

Ser. No. 10/037,229

**AMENDMENTS TO THE CLAIMS:**

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1. - 7. (Cancelled)

8. (Previously presented) Pseudo 3-D space representation system as defined in any one of claims 43, 44, 63, and 64, wherein the image transforming means has an interpolation image generating means for generating a series of interpolating images by affine transformation until a next original image is displayed, and the display image changing means has an interpolation image display means for subsequently displaying the interpolation images generated by the interpolation image generating means.

9. (Previously presented) Pseudo 3-D space representation system as defined in claim 8, further comprising a traversing time changing means for changing a traversing time necessary for changing a display image from an unchanged image to an original image, to represent a pseudo temporal distance according to a difference between the unchanged image and the original image.

Docket No. F-7265

Ser. No. 10/037,229

10. (Previously presented) Pseudo 3-D representation system as defined in claim 8, wherein each image is provided with metadata including at least time information, and a calculation means is provided for calculating a time necessary for changing a display from an original image to another image, and the changing is completed within a calculated time.

11. (Previously presented) Pseudo 3-D space representation system as defined in claim 8, wherein each image is provided with metadata including at least information about a position and a direction thereof, a calculation means is provided for calculating relative positions for each of two images according to the metadata, and changing a display from an original image to another image is completed according to a specified relationship between two positions.

12. (Canceled)

13. (Previously presented) Pseudo 3-D space representation system as defined in any one of claims 45, 46, 65, and 66, wherein the image transforming means has an interpolation image generating means for generating a series of interpolating images by affine transformation until a next original image is displayed, and the display image changing means has an interpolation image display means for

Docket No. F-7265

Scr. No. 10/037,229

subsequently displaying the interpolation images generated by the interpolation image generating means.

14. (Previously presented) Pseudo 3-D space representation system as defined in claim 13, further comprising a traversing time changing means for changing a traversing time necessary for changing a display image from an unchanged image to an original image, to represent a pseudo temporal distance according to a difference between the unchanged image and the original image.

15. (Previously presented) Pseudo 3-D space representation system as defined in claim 13, wherein each image is provided with metadata including at least time information, and a calculation means is provided for calculating a time necessary for changing a display from an original image to another image, and the changing is completed within a calculated time.

16. (Previously presented) Pseudo 3-D space representation system as defined in claim 13, wherein each image is provided with metadata including at least information about a position and a direction thereof, a calculation means is provided for calculating relative positions for each of two images according to the metadata, and changing a display from an original image to another image is completed according to a specified relationship between two positions.

Docket No. F-7265

Ser. No. 10/037,229

17. - 33. (Canceled)

34. (Previously presented) Program for operating a computer as a game system, utilizing a pseudo 3-D space representation system as defined in any one of claims 49, 50, 69, and 70.

35. (Previously presented) Program for operating a computer as an electronic map display system, utilizing a pseudo 3-D space representation system as defined in any one of claims 51, 52, 71, and 72.

36. (Previously presented) Program for operating a computer as an electronic map providing system, utilizing a pseudo 3-D space representation system as defined in any one of claims 53, 54, 73, and 74.

37. (Previously presented) Program for operating a computer as a navigation system, utilizing a pseudo 3-D space representation system as defined in any one of claims 55, 56, 75, and 76.

38. (Previously presented) Program for operating a computer as a navigation system, utilizing a pseudo 3-D space representation system as defined in any one of claims 57, 58, 77, and 78.

Docket No. F-7265

Ser. No. 10/037,229

39. (Canceled)

40. (Previously presented) Program for operating a computer to execute an electronic map providing method, as defined in any one of claims 59 and 60.

41. (Previously presented) Program for operating a computer to execute a navigation method, as defined in any one of claims 61 and 62.

42. (Canceled)

43. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images; and

an image display means for displaying both images as superposed on each other;

wherein the image transforming means has a means for transforming image shape in order that the selected image or the specified image of the both images

Docket No. F-7265

Ser. No. 10/037,229

superposed each other by the image display means is transformed to the original shape, the image shape being the shape of the other image of the both images or the both images, and the image display means has an image presenting means for presenting selectable images other than the original one and a display image changing means for changing the displayed images by displaying both images transformed by the image transforming means.

44. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

- a specified area transforming means for transforming an area specified on an image through affine transformation;
- a specified area retrieving means for retrieving a part common with the specified area from plural images;
- an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other; and
- an image display means for displaying both images superposed on each other; wherein the image transforming means has a means for transforming image shape in order that the selected image or the specified image of the both images superposed each other by the image display means is transformed to the original shape, the image shape being the shape of the other image of the both images or the

Docket No. F-7265

Ser. No. 10/037,229

both images, and the image display means has an image presenting means for presenting selectable images other than the original one and a display image changing means for changing the displayed images by displaying both images transformed by the image transforming means.

45. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images; and

an image display means for displaying both images as superposed on each other;

wherein the image display means has an area presenting means for selectively presenting an area on an image associated with an area on another image and a display image changing means for changing display image by displaying the associated original image of the another image when the area presented by the area presenting means is selected.

46. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

Docket No. F-7265

Ser. No. 10/037,229

a specified area transforming means for transforming an area specified on an image through affine transformation;

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other; and

an image display means for displaying both images superposed on each other; wherein the image display means has an area presenting means for selectively presenting an area on an image associated with an area on another image and a display image changing means for changing display image by displaying the associated original image of the another image when the area presented by the area presenting means is selected.

47. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images; and

Docket No. F-7265

Ser. No. 10/037,229

an image display means for displaying both images as superposed on each other;

wherein an image is provided with metadata including at least information about a position and a direction thereof and there is provided a means for identifying a position of the image based on the each metadata and associating the metadata with the electronic map and a means for displaying the image identified by the metadata on the electronic map.

48. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area transforming means for transforming an area specified on an image through affine transformation;

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other; and

an image display means for displaying both images superposed on each other;

wherein an image is provided with metadata including at least information about a position and a direction thereof and there is provided a means for identifying a position of the image based on the each metadata and associating the metadata with

Docket No. F-7265

Ser. No. 10/037,229

the electronic map and a means for displaying the image identified by the metadata on the electronic map.

49. (Previously presented) A game system for playing a game for specifying an area on an image by using a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images; and

an image display means for displaying both images as superposed on each other;

such that further specifying an area of another image associated with the specified area and repeating the same until all specified images are linked, which has an image database storing a plurality of image groups each composed of a plurality of images associated with each other in such a way that areas of images can be linked only in a specified order and which presents a group of images for users to specify areas one on each of two images, links two specified areas, adds points of the links and presents

Docket No. F-7265

Ser. No. 10/037,229

remaining images of the group excepting two images which areas were specified and repeats the same steps.

50. (Previously presented) A game system for playing a game for specifying an area on an image by using a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area transforming means for transforming an area specified on an image through affine transformation;

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other; and

an image display means for displaying both images superposed on each other; such that further specifying an area of another image associated with the specified area and repeating the same until all specified images are linked, which has an image database storing a plurality of image groups each composed of a plurality of images associated with each other in such a way that areas of images can be linked only in a specified order and which presents a group of images for users to specify areas one

Docket No. F-7265

Ser. No. 10/037,229

on each of two images, links two specified areas, adds points of the links and presents remaining images of the group excepting two images which areas were specified and repeats the same steps.

51. (Previously presented) An electronic map display system, comprising a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation system comprising:  
a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images; and  
an image display means for displaying both images as superposed on each other;

wherein said pseudo 3-D space representation system is embedded in a corresponding position on an electronic map or is linked thereto and displayed thereon.

52. (Previously presented) An electronic map display system, comprising a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation system comprising:  
a specified area transforming means for transforming an area specified on an image through affine transformation;

Docket No. F-7265

Ser. No. 10/037,229

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other; and

an image display means for displaying both images superposed on each other;

wherein said pseudo 3-D space representation system is embedded in a corresponding position on an electronic map or is linked thereto and displayed thereon.

53. (Previously presented) An electronic map providing system comprising a server device having an electronic map database containing a pseudo 3-D spatial electronic map prepared by embedding in corresponding positions thereof or linked thereto pseudo 3-D space representation images created by using a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said 3-D space representation system comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images; and

an image display means for displaying both images as superposed on each other;

Docket No. F-7265

Ser. No. 10/037,229

wherein the server device connected to a number of client devices through a network retrieves the pseudo 3-D special electronic map in the electronic map database in response to access from the client device and provides it to the client device.

54. (Previously presented) An electronic map providing system comprising a server device having an electronic map database containing a pseudo 3-D spatial electronic map prepared by embedding in corresponding positions thereof or linked thereto pseudo 3-D space representation images created by using a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said 3-D space representation system comprising:

a specified area transforming means for transforming an area specified on an image through affine transformation;

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other; and

an image display means for displaying both images superposed on each other;

wherein the server device connected to a number of client devices through a network retrieves the pseudo 3-D special electronic map in the electronic map database in response to access from the client device and provides it to the client device.

Docket No. F-7265

Ser. No. 10/037,229

55. (Previously presented) A navigation system comprising a server device comprising an electronic map database containing a pseudo 3-D spatial electronic map comprising a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images; and

an image display means for displaying both images as superposed on each other;

prepared by embedding in corresponding positions thereon or linked thereto a pseudo 3-D space representation image created by using said pseudo 3-D space representation system, wherein the server device is connected to a number of client devices capable of detecting its present position through network and, in response to an access from any client device indicating its current position, it retrieves in the electronic map database and provides the client device with pseudo 3-D spatial electronic map corresponding to the current position, thus navigating the user of the client device.

56. (Previously presented) A navigation system comprising a server device comprising an electronic map database containing a pseudo 3-D spatial electronic map

Docket No. F-7265

Ser. No. 10/037,229

comprising a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation comprising:

a specified area transforming means for transforming an area specified on an image through affine transformation;

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other; and

an image display means for displaying both images superposed on each other; prepared by embedding in corresponding positions thereon or linked thereto a pseudo 3-D space representation image created by using said pseudo 3-D space representation system, wherein the server device is connected to a number of client devices capable of detecting its present position through network and, in response to an access from any client device indicating its current position, it retrieves in the electronic map database and provides the client device with pseudo 3-D spatial electronic map corresponding to the current position, thus navigating the user of the client device.

57. (Previously presented) A navigation system comprising an electronic map database containing a pseudo 3-D spatial electronic map prepared by embedding

Docket No. F-7265

Ser. No. 10/037,229

in corresponding positions thereon or linked thereto a pseudo 3-D space representation image created by using a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation system comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images; and

an image display means for displaying both images as superposed on each other;

such that said navigation system navigates a user by detecting a current position, searching an electronic map corresponding to the detected current position in the electronic database, and displaying the pseudo 3-D spatial electronic map on a display screen of the user device.

58. (Previously presented) A navigation system comprising an electronic map database containing a pseudo 3-D spatial electronic map prepared by embedding in corresponding positions thereon or linked thereto a pseudo 3-D space representation image created by using a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation system comprising:

Docket No. F-7265

Ser. No. 10/037,229

a specified area transforming means for transforming an area specified on an image through affine transformation;

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other; and

an image display means for displaying both images superposed on each other; such that said navigation system navigates a user by detecting a current position, searching an electronic map corresponding to the detected current position in the electronic database, and displaying the pseudo 3-D spatial electronic map on a display screen of the user device.

59. (Previously presented) An electronic map displaying method comprising preparing a pseudo 3-D spatial representation image utilizing a pseudo 3-D space representing method comprising:

executing steps of displaying a plurality of images to a user, causing the user to specify areas on each of two or more images, associating the specified area of one displayed image with the specified area of the other displayed image as common parts, transforming the shape of one or both images through affine transformation by matching the paired areas and superposing both images;

Docket No. F-7265

Ser. No. 10/037,229

wherein said pseudo 3-D spatial representation image is embedded in a corresponding position on an electronic map or linked thereto to display the same representation image on the electronic map.

60. (Previously presented) An electronic map displaying method comprising preparing a pseudo 3-D spatial representation image utilizing a pseudo 3-D space representing method comprising:

performing the steps of displaying an image to a user, causing the user to specify an area on the displayed image, transforming the specified area by affine transformation, retrieving a part common to the specified area from a plurality of images, transforming the shape of one or both images through affine transformation to match the specified area with the area extracted by the retrieval and displaying both images superposed on each other;

wherein said pseudo 3-D spatial representation image is embedded in a corresponding position on an electronic map or linked thereto to display the same representation image on the electronic map.

61. (Previously presented) A navigation method for navigating users, comprising providing through a network a pseudo 3-D spatial electronic map prepared by a pseudo 3-D space representing method comprising preparing a pseudo 3-D spatial representation image, said pseudo 3-D space representing method comprising:

Docket No. F-7265

Ser. No. 10/037,229

executing steps of displaying a plurality of images to a user, causing the user to specify areas on each of two or more images, associating the specified area of one displayed image with the specified area of the other displayed image as common parts, transforming the shape of one or both images through affine transformation by matching the paired areas and superposing both images;

wherein said pseudo 3-D spatial representation image is embedded in or linked to corresponding positions on the electronic map.

62. (Previously presented) A navigation method for navigating users, comprising providing through a network a pseudo 3-D spatial electronic map prepared by a pseudo 3-D space representing method comprising preparing a pseudo 3-D spatial representation image, said pseudo 3-D space representing method comprising:

performing the steps of displaying an image to a user, causing the user to specify an area on the displayed image, transforming the specified area by affine transformation, retrieving a part common to the specified area from a plurality of images, transforming the shape of one or both images through affine transformation to match the specified area with the area extracted by the retrieval and displaying both images superposed on each other;

wherein said pseudo 3-D spatial representation image is embedded in or linked to corresponding positions on the electronic map.

Docket No. F-7265

Ser. No. 10/037,229

63. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

- a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;
- an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images;
- an image display means for displaying both images as superposed on each other;
- an operation image display means for displaying a plurality of images; and
- an area specifying means for allowing a user to specify areas on each of two or more images displayed to the user;

wherein the image transforming means has a means for transforming image shape in order that the selected image or the specified image of the both images superposed each other by the image display means is transformed to the original shape, the image shape being the shape of the other image of the both images or the both images, and the image display means has an image presenting means for presenting selectable images other than the original one and a display image changing means for changing the displayed images by displaying both images transformed by the image transforming means.

Docket No. F-7265

Ser. No. 10/037,229

64. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

- a specified area transforming means for transforming an area specified on an image through affine transformation;
- a specified area retrieving means for retrieving a part common with the specified area from plural images;
- an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other;
- an image display means for displaying both images superposed on each other;
- an operation image display means for displaying an image; and
- an area specifying means for specifying an area on the displayed image;

wherein the image transforming means has a means for transforming image shape in order that the selected image or the specified image of the both images superposed each other by the image display means is transformed to the original shape, the image shape being the shape of the other image of the both images or the both images, and the image display means has an image presenting means for presenting selectable images other than the original one and a display image changing means for changing the displayed images by displaying both images transformed by the image transforming means.

Docket No. F-7265

Ser. No. 10/037,229

65. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images;

an image display means for displaying both images as superposed on each other;

an operation image display means for displaying a plurality of images; and

an area specifying means for allowing a user to specify areas on each of two or more images displayed to the user;

wherein the image display means has an area presenting means for selectively presenting an area on an image associated with an area on another image and a display image changing means for changing display image by displaying the associated original image of the another image when the area presented by the area presenting means is selected.

66. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area transforming means for transforming an area specified on an image through affine transformation;

Docket No. F-7265

Ser. No. 10/037,229

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other; and

an image display means for displaying both images superposed on each other;

an operation image display means for displaying an image; and

an area specifying means for specifying an area on the displayed image;

wherein the image display means has an area presenting means for selectively presenting an area on an image associated with an area on another image and a display image changing means for changing display image by displaying the associated original image of the another image when the area presented by the area presenting means is selected.

67. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images;

Docket No. F-7265

Ser. No. 10/037,229

an image display means for displaying both images as superposed on each other;

an operation image display means for displaying a plurality of images; and  
an area specifying means for allowing a user to specify areas on each of two or more images displayed to the user;

wherein an image is provided with metadata including at least information about a position and a direction thereof and there is provided a means for identifying a position of the image based on the each metadata and associating the metadata with the electronic map and a means for displaying the image identified by the metadata on the electronic map.

68. (Previously presented) A pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area transforming means for transforming an area specified on an image through affine transformation;

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other;

an image display means for displaying both images superposed on each other;

Docket No. F-7265

Ser. No. 10/037,229

an operation image display means for displaying an image; and an area specifying means for specifying an area on the displayed image;

wherein an image is provided with metadata including at least information about a position and a direction thereof and there is provided a means for identifying a position of the image based on the each metadata and associating the metadata with the electronic map and a means for displaying the image identified by the metadata on the electronic map.

69. (Previously presented) A game system for playing a game for specifying an area on an image by using a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images;

an image display means for displaying both images as superposed on each other;

an operation image display means for displaying a plurality of images; and

Docket No. F-7265

Ser. No. 10/037,229

an area specifying means for allowing a user to specify areas on each of two or more images displayed to the user;

such that further specifying an area of another image associated with the specified area and repeating the same until all specified images are linked, which has an image database storing a plurality of image groups each composed of a plurality of images associated with each other in such a way that areas of images can be linked only in a specified order and which presents a group of images for users to specify areas one on each of two images, links two specified areas, adds points of the links and presents remaining images of the group excepting two images which areas were specified and repeats the same steps.

70. (Previously presented) A game system for playing a game for specifying an area on an image by using a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, comprising:

a specified area transforming means for transforming an area specified on an image through affine transformation;

a specified area retrieving means for retrieving a part common with the specified area from plural images;

Docket No. F-7265

Ser. No. 10/037,229

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other;

an image display means for displaying both images superposed on each other;

an operation image display means for displaying an image; and

an area specifying means for specifying an area on the displayed image;

such that further specifying an area of another image associated with the specified area and repeating the same until all specified images are linked, which has an image database storing a plurality of image groups each composed of a plurality of images associated with each other in such a way that areas of images can be linked only in a specified order and which presents a group of images for users to specify areas one on each of two images, links two specified areas, adds points of the links and presents remaining images of the group excepting two images which areas were specified and repeats the same steps.

71. (Previously presented) An electronic map display system, comprising a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation system comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

Docket No. F-7265

Ser. No. 10/037,229

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images;

an image display means for displaying both images as superposed on each other;

an operation image display means for displaying a plurality of images; and

an area specifying means for allowing a user to specify areas on each of two or more images displayed to the user;

wherein said pseudo 3-D space representation system is embedded in a corresponding position on an electronic map or is linked thereto and displayed thereon.

72. (Previously presented) An electronic map display system, comprising a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation system comprising:

a specified area transforming means for transforming an area specified on an image through affine transformation;

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other;

an image display means for displaying both images superposed on each other;

Docket No. F-7265

Ser. No. 10/037,229

an operation image display means for displaying an image; and  
an area specifying means for specifying an area on the displayed image;  
wherein said pseudo 3-D space representation system is embedded in a  
corresponding position on an electronic map or is linked thereto and displayed thereon.

73. (Previously presented) An electronic map providing system comprising  
a server device having an electronic map database containing a pseudo 3-D spatial  
electronic map prepared by embedding in corresponding positions thereof or linked  
thereto pseudo 3-D space representation images created by using a pseudo 3-D space  
representation system for representing a pseudo 3-D space with a plurality of 2-D  
images, said 3-D space representation system comprising:

a specified area associating means for associating one or more sets of areas  
specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through  
affine transformation by matching the corresponding areas specified on the images;

an image display means for displaying both images as superposed on each  
other;

an operation image display means for displaying a plurality of images; and  
an area specifying means for allowing a user to specify areas on each of two or  
more images displayed to the user;

Docket No. F-7265

Ser. No. 10/037,229

wherein the server device connected to a number of client devices through a network retrieves the pseudo 3-D special electronic map in the electronic map database in response to access from the client device and provides it to the client device.

74. (Previously presented) An electronic map providing system comprising a server device having an electronic map database containing a pseudo 3-D spatial electronic map prepared by embedding in corresponding positions thereof or linked thereto pseudo 3-D space representation images created by using a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said 3-D space representation system comprising:

a specified area transforming means for transforming an area specified on an image through affine transformation;

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other;

an image display means for displaying both images superposed on each other;

an operation image display means for displaying an image; and

an area specifying means for specifying an area on the displayed image;

Docket No. F-7265

Ser. No. 10/037,229

wherein the server device connected to a number of client devices through a network retrieves the pseudo 3-D special electronic map in the electronic map database in response to access from the client device and provides it to the client device.

75. (Previously presented) A navigation system comprising a server device comprising an electronic map database containing a pseudo 3-D spatial electronic map comprising a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images; and

an image display means for displaying both images as superposed on each other;

prepared by embedding in corresponding positions thereon or linked thereto a pseudo 3-D space representation image created by using said pseudo 3-D space representation system, wherein the server device is connected to a number of client devices capable of detecting its present position through network and, in response to an access from any client device indicating its current position, it retrieves in the electronic map database and provides the client device with pseudo 3-D spatial

Docket No. F-7265

Ser. No. 10/037,229

electronic map corresponding to the current position, thus navigating the user of the client device.

76. (Previously presented) A navigation system comprising a server device comprising an electronic map database containing a pseudo 3-D spatial electronic map comprising a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation comprising:

- a specified area transforming means for transforming an area specified on an image through affine transformation;
- a specified area retrieving means for retrieving a part common with the specified area from plural images;
- an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other;
- an image display means for displaying both images superposed on each other;
- an operation image display means for displaying an image; and
- an area specifying means for specifying an area on the displayed image; prepared by embedding in corresponding positions thereon or linked thereto a pseudo 3-D space representation image created by using said pseudo 3-D space representation system, wherein the server device is connected to a number of client devices capable of detecting its present position through network and, in response to

Docket No. F-7265

Ser. No. 10/037,229

an access from any client device indicating its current position, it retrieves in the electronic map database and provides the client device with pseudo 3-D spatial electronic map corresponding to the current position, thus navigating the user of the client device.

77. (Previously presented) A navigation system comprising an electronic map database containing a pseudo 3-D spatial electronic map prepared by embedding in corresponding positions thereon or linked thereto a pseudo 3-D space representation image created by using a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation system comprising:

a specified area associating means for associating one or more sets of areas specified on one image and the other image or images as common parts;

an image transforming means for transforming one or both images through affine transformation by matching the corresponding areas specified on the images;

an image display means for displaying both images as superposed on each other;

an operation image display means for displaying a plurality of images; and

an area specifying means for allowing a user to specify areas on each of two or more images displayed to the user;

Docket No. F-7265

Ser. No. 10/037,229

such that said navigation system navigates a user by detecting a current position, searching an electronic map corresponding to the detected current position in the electronic database, and displaying the pseudo 3-D spatial electronic map on a display screen of the user device.

78. (Previously presented) A navigation system comprising an electronic map database containing a pseudo 3-D spatial electronic map prepared by embedding in corresponding positions thereon or linked thereto a pseudo 3-D space representation image created by using a pseudo 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images, said pseudo 3-D space representation system comprising:

a specified area transforming means for transforming an area specified on an image through affine transformation;

a specified area retrieving means for retrieving a part common with the specified area from plural images;

an image transforming means for transforming one or both images through affine transformation in such a way that the specified area and the retrieved area may be matched with each other;

an image display means for displaying both images superposed on each other;

an operation image display means for displaying an image; and

an area specifying means for specifying an area on the displayed image;

Docket No. F-7265

Ser. No. 10/037,229

such that said navigation system navigates a user by detecting a current position, searching an electronic map corresponding to the detected current position in the electronic database, and displaying the pseudo 3-D spatial electronic map on a display screen of the user device.